

ABSTRACT

The present invention provides a process for the catalytic cracking of a hydrocarbon, characterized in that the catalytic cracking is carried out in the presence of a crystalline aluminosilicate zeolite catalyst carrying a rare earth element in an amount ranging from 0.4 to 20 in terms of atomic ratio relative to the aluminum of the zeolite using a reactor which permits continuous regeneration of the catalyst and which is of a fluidized bed type, a moving bed type, or a transfer line reaction type under reaction conditions involving a reaction temperature ranging from 500 to 700°C, a reaction pressure ranging from 50 to 500 kPa, a steam to hydrocarbon mass ratio ranging from 0.01 to 2, and a contacting time ranging from 0.1 to 10 seconds.

With this process, the generation of by-products such as aromatic hydrocarbons and heavy hydrocarbons can be inhibited and light olefins such as ethylene and propylene can be selectively produced in a stable manner for a long period of time.